INDIA'S TRADE RELATIONS WITH GULF COOPERATION COUNCIL (GCC) COUNTRIES: RETROSPECT AND PROSPECTS

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SYNOPSIS

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1.0 INTRODUCTION

Countries have diverse resources, capabilities and expertise in producing goods and services. Resource endowment, specialization and difference in the cost of goods and services in different countries are the major factors of international trade. Law of comparative costs states that a country can produce all goods at a lower cost than the other country, yet the cost of producing some good is comparatively less than all other goods. David Ricardo observed comparative difference in costs as one among main causes of international trade.

It is commonly believed that international trade and economic development are most intimately connected. It has dual effect on the economy, as it generates employment opportunities and increases the national income. International trade injects global competitiveness due to integration of the world economy entrepreneurs. They can have access to the latest technology to enhance their productivity. In the modern era, there is mutual interdependence of economies in the form of Free Trade Agreements (FTA), Custom Union, Common Market, Economic Union, Economic Integration etc.

Free trade arrangements, known by various nomenclatures such as Preferential Trade Agreements (PTAs), Free Trade Agreements (FTAs), Regional Trade Agreements (RTAs), Comprehensive Economic Cooperation Agreements (CECAs), Comprehensive Economic Partnership Agreements (CEPAs), Broad-based Trade and Investment Agreements (BTIAs) etc. are the impetus of trade growth. While traditional FTAs are limited to trade in goods, CECA, CEPA and BTIA cover integrated package of Agreements on Goods (both tariffs and non-tariff barriers), Services, Investment, Intellectual Property etc.

Regional Trade Agreements (RTAs) are an important means to take advantage of tariff reduction, address non-tariff barriers, facilitate the integration of the economy into global value chains and production networks and also attract investment in potential growth sectors. With the declining role of tariffs, non-tariff barriers are increasingly becoming more crucial and RTAs provide a potentially effective tool to

address such measures. The need to attract foreign investment for boosting manufacturing and increasing competitiveness, thereby generating employment, is also a consideration for entering into Comprehensive Economic Cooperation Agreements (CECAs) and Comprehensive Economic Partnership Agreements (CEPAs).

In last thirty – thirty five years Bilateral Trade Agreements (BTAs) and Multilateral Trade Agreements (MTAs) have lowered the trade barriers to facilitate easy flow of goods and services across geographical boundaries. Some of the most popular MTAs include South Asian Association for Regional Cooperation (SAARC), North American Free Trade Agreement (NAFTA), South Asian Free Trade Agreement (SAFTA), Association of South East Asian Nations (ASEAN), Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation (BIMSTEC) and Greater Arab Free Trade Agreement (GAFTA).

After the World War II, United States initiated the process of establishing General Agreement on Tariff and Trade (GATT). The principal purpose of GATT was to ensure competition in commodity trade through reduction of trade barriers. With a view to encourage growth and development and free trade among member countries, the GATT, in its very first meeting with 23 member countries held at Geneva, initiated the process of trade liberalisation. The first seven rounds of GATT negotiations were focused at the reduction of tariff barriers and stimulate international trade. However, eighth (Uruguay) round of multilateral trade negotiations (December, 1993) marked as end of GATT achievements in cutting import duties, tariffs and creating a new multilateral framework for world trade. The emergence of WTO in January 1995 further accelerated flow of trade and investment of regional trading blocs which operate alongside the multilateral trade.

Bilateral and regional trading arrangements have gradually become permanent features of the global trading architecture. As per WTO statistics there were 398 Regional Trade Agreements (RTA) in force as of January 2015, covering both goods and services (Foreign Trade Policy Statement 2015, DGFT). India has been actively engaging in regional and bilateral trade negotiations with a view to diversify and expand the markets for its exports as well as ensuring access to raw materials,

intermediates and capital goods for stimulating value added domestic manufacturing.

1.1 INDIA'S FOREIGN TRADE: AN OVERVIEW

From times immemorial, international trade had a significant place in Indian economy. Prior to 1947, India was relatively developed economy among the developing countries; its economic life was largely shaped by Britain whose colony India was. The composition of India's foreign trade at the time of independence presented a dismal picture of a backward economy exporting raw material and importing finished goods. Thus, production of final products was discouraged. For example, cotton textiles, which at one time constituted bulk of India's exports to UK, accounted for the largest share of imports of UK during the British rule. This resulted in the decline and decay of Indian industries. After independence, with the commencement of planning, India started enlarging inevitably its imports, to meet its increasing development demands particularly in the form of heavy machineries and essential inputs like raw materials and spare parts. These development measures necessarily called for efforts to avoid balance of payment crisis. Therefore, there had been an understandable urgency in India to search for new trading partners, and the diversification in trade with a view to hedge against risk and also the expansion of trade.

Over the last seven decades, India's foreign trade has undergone a complete transformation in terms of composition of commodities. The exports cover a wide range of traditional and non-traditional products while imports mainly consist of capital goods, petroleum products, raw materials, intermediates and chemicals to meet the ever increasing industrial demands. The process of economic reforms initiated in 1991 resulted into liberalization, openness and export promotion activities, such as simplification of the procedure, reduced tariff and quantitative trade restrictions. It resulted into enhanced economic integration and enhanced international economic relations.

In order to put exports on a high growth trajectory, India needs a market diversification strategy based on the changing dynamics of growth in the world economy. So far India's bilateral trade engagements is concerned, it has been mainly with the industrial powers or driven by multiple considerations. India is also

engaged with many regions and countries that are not only promising markets but also major suppliers of critical inputs and have complementarities with the Indian economy. (Foreign Trade Policy Statement 2015, DGFT)

India signed its first bilateral free trade agreement with Sri Lanka on 28th December 1998 (Kelegama and Karunaratne, 2013) and later entered into several other bilateral and regional trade negotiation agreements. These may include trade agreement withThailand (2003), ASEAN (Association of Southeast Asian Nations, comprising Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore and Vietnam, 2003), GCC (Gulf Cooperation Council, comprising UAE, Saudi Arab, Qatar, Kuwait, Oman and Bahrain, 2004), China (2005), Bangladesh (2006), Bhutan (2006), Nepal (2009) and Israel (2010); Preferential Trade Agreement with Egypt (2002), Afghanistan (2003), MERCOSUR (a trading community in Latin America comprising Brazil, Argentina, Uruguay and Paraguay, 2004), Chile (2005) and SACU (Southern African Custom Union, comprising Botswana, Lesotho, Namibia, South Africa and Swaziland, 2008); Comprehensive Economic Cooperation Agreement (CECA) with Singapore (2005), Russia (2006), Australia (2007) and Malaysia (2011); Comprehensive Economic Partnership Agreement (CEPA) with South Korea (2009), Japan (2011) etc. It has, so far, signed eleven FTAs and five limited Preferential Trade Agreements (PTAs) and is negotiating seventeen FTAs, including the expansion of some of the existing FTAs/PTAs. While the negotiations are ongoing for several agreements, some new initiatives have been taken. (Foreign Trade Policy Statement 2015, DGFT)

1.2 GULF COOPERATION COUNCIL (GCC)

The Gulf Cooperation Council (GCC) was established by an agreement concluded on 25th May 1981 in Riyadh (Saudi Arabia) among Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE in view of their special relations, geographic proximity, similar political systems based on Islamic beliefs, joint destiny and common objectives. Presently, it encompasses a total area of 2,672,700 Sq. Km. and the official language is Arabic (www.mea.gov.in). GCC comprises of some of the fastest growing economies in the world, mainly due to an increase in oil and natural gas revenues coupled with a building and investment boom backed by reserves etc. Most of these

economies which were affected during recent economic downturn have now recovered and are growing at a fast pace again.

GCC as a collective entity has tremendous significance for India. The Gulf constitutes the immediate neighbourhood of India separated only by the Arabian Sea. India, therefore, has a vital stake in the stability, security and economic well-being of the Gulf. As a group, the GCC has been increasingly determining the economic, political, and security policies of its member States. The GCC countries are moving ahead rapidly with their economic integration efforts.

Like Look East Policy, India, in 2005 adopted Look West Policy which reflected India's increased desire for engagement with its West Asian neighbours. In the West Asia, Gulf region (GCC) is more important for India because of increased cooperation in the fields of trade, business, politics and security. India enjoys traditionally cordial relations and cooperation with the GCC. India's old, historical ties with GCC states, coupled with increasing imports of oil and gas, growing trade and investment opportunities and presence of approximately six million Indian workers in the region are of vital interest to India.

2.0 PRESENT STATE OF KNOWLEDGE

A number of empirical studies conducted in the past shed some light on India's multilateral trade with different groups. Some studies used panel data gravity models to facilitate potential international trade flows between countries. Tinbergen (1962) was the first who applied gravity model in international trade. Geraci and Perwo (1977) focused on income variable in gravity equation. In order to represent income variable they used GDP of exporting and importing countries. Linder (1961) stated that the country with similar per capita incomes would have similar demand. Some others who used gravity model include Harris and Matyas (1998), Egger (2000), Zarzoso and Lehman (2003), Ramos and Zarzoso (2005) and Boughanmi (2008). Harris and Matyas (1998) applied OLS method to estimate gravity method for 12 countries from APEC trading block over a period from 1982-1994. Bougheas et al. (1999) suggested that the availability of product for export depends on the level of income in the exporting country. If the level of income is higher, high level of production will be.

Egger (2000) stated that appropriateness of gravity approaches, viz., Random Effects Gravity Approach and Fixed Effect Gravity Approach depends on the correlation of individual effect with the right hand side economic variables. He found fixed effect model more consistent than the random effect model.Guru-Gharana (2000) tried to explore possibilities of trade expansion in SAARC region during 1975-1996. By using Three Stages Least Squares (3SLS) estimation technique, he inferred that all SAARC countries were dramatically benefited from regional trade expansion. Ahmed (2002) identified possible causes of low level of intra-regional trade such as similarities between member countries of SAARC. He mentioned that SAARC countries could not enjoy comparative advantage driven trade. Moreover, low level of income also constrained the potential for intra-regional trade. Zarzoso and Lehman (2003) estimated a gravity model on the trade potential between Mercosur and EU. Researchers found that Fixed Effect Model (FEM) is more appropriate than Random Effect Model (REM) in explaining bilateral trade flow.

Hirantha (2004) used gravity model on trade of South Asian countries. He pointed out that there has been a strong evidence for the trade creation in the region with no trade diversion effects as far as trade with non-member is concerned. The researcher was of the view that South Asian countries rely heavily on the countries outside the region for the most of their imports. As a result of SAPTA, the intra-regional trade of SAARC countries recorded an increase in trade at an annual growth of 8.09 percent as against 6.20 percent with the rest of the world. This increased concentration in intra-SAARC trade did not result into trade diversion with the rest of the world. Similarly, Rahman (2004) also with gravity model observed significant scope for trade expansion in the SAARC region. He stated that there exist inter-country differences in production, consumption, investment behaviour, and taxation structure among SAARC countries. He also mentioned that SAARC countries realized greater unit values from exports within the region than rest of the world, and a lesser average unit cost for imports within the region than of rest of the world.

Ramos and Zarzoso (2005) observed difference in trade flows among rich and poor countries. They mentioned that trade flows are more sensitive to geographical and cultural variables in developing countries than the developed ones. Pradhan (2006) used ordinary least square (OLS) on panel data to analyze India's export potentials

with GCC member countries. He found that magnitude of India's export potential is highest with Oman in comparison with other countries. He also observed that India's export basket is concentrated to a few products only. Boughanmi (2008) used panel fixed effect gravity model to examine import flows of the GCC countries from 69 trade partners during 1990-2004. He found that the income and other dummy variable for the GCC countries are positively supporting a high volume of trade.

Insel and Tekce (2009) also used gravity model to examine whether the trade flow among GCC member countries has changed overtime or they have developed new bilateral trade relations in two sample periods of 1997-2006 and 2001-2006. To obtain individual country effect, the researchers performed single country panel specification in static income effect model. They applied fixed effects gravity model in static and dynamic environment to examine short run and long run trade behaviours of GCC countries. The results indicated that the composition of trade of each GCC country with their partners has changed over time and they have developed new economic relations after 2001. Bhattacharya and Mandal (2010) analysed the effect of the indo-ASEAN FTA on India's balance of trade by calculating tariff elasticity of India's exports and imports with respect to ASEAN-6 for the period from 1989 to 2006. They observed significant increase in ASEAN access to Indian market but not that much increase in India's access to ASEAN markets.

Chakraborty et al. (2012) studied challenges and opportunities for India in EU market. The researchers analysed complementarities in India's trade pattern with selected EU 15 countries by calculating Trade Complementarity Index (TCI) over a period from 2000 to 2009. Ding and Masha (2012) applied panel regression to estimate the impact of India's growth on the growth in South Asian Countries (SACs) and found that India's growth has good explanatory power on the growth in other SACs. They also observed that India's bilateral trade and financial linkage with South Asian Countries (SACs) are relatively weak. Hoa (2012) focused on ASEAN-India economic, trade and integration relations and their possible causal impact on India's growth during 1990-2008 by adapting Endogenous Growth Trade Theory (EGT) approach (assessed by the Friedman,1953 and kydland, 2006). He suggested that the Generalised Method of Moment (GMM) based findings from EGT model are more appropriate for econometric study. Based on results, the researcher stated that

India's real exchange rate fluctuations have significantly reduced ASEAN-India trade. He further mentioned that India's growth has no impact on ASEAN-India trade. However, ample opportunities exist in India to extend its trade with ASEAN.

With a view to examine trade complementarity and similarity between India and the Gulf countries over a period from 2005 to 2009, Das and Pradhan (2014) used Trade Intensity Index (TII) and Revealed Comparative Advantage (RCA) index on India-Gulf region bilateral trade data. The researchers found a pervasive need to evolve Unified Gulf specific Trade Strategy to synergise more economic and commercial avenues of cooperation. Buranage and Karnik (2014) used Hirschman Index (HI) to assess bilateral merchandise trade concentration between India and SAARC countries during 1991-2014. In order to examine whether the nature of bilateral trade is inter-industry or intra-industry, the researcher used Trade Overlap Index (TOI) and Grubel and Lloyd Index (GLI). The results revealed that though India's import from SAARC show sign of diversification and less concentration, the export basket of India did not show sign of diversification and largely concentrated in few products only.

Hafiz et al. (2014) studied India's trade relations with SAARC as a group and its member countries after formation of SAFTA. They stated out that India's exports to SAARC region has always been below 5 percent of its total exports. Moreover, growth in India's exports has been negative since 2008-09 while imports from the region were very negligible compared with the India's total imports. The study also mentioned that India has huge bilateral trade surplus with Bangladesh, Pakistan, Sri Lanka and Nepal. Mishra et al. (2015) examined the impact of external sector reforms on India's foreign trade with other BRICS countries over the period from 1990 to 2010. The results indicated positive relationship between India's GNP/ Per capita GNP and volume of trade and an inverse relation between foreign trade and transport cost.

Alam (2015) studied composition and pattern of bilateral trade between India and Qatar. Using TII and RCA on time series data for 2001-2013, he observed that both the countries have different trade structure and India's trade is more intense with Qatar as compared to its other trading partners. Mohajeri (2015) calculated Compound Annual Growth Rate (CAGR), Average Annual Growth Rate (AAGR),

Trade Intensity Index (TII), Cuddi-Dulla Index of Variation (CDV) and applied trend analysis to measure growth and intensity of India's trade with Persian Gulf Countries (PGCs) over a period 2009–2014. Based on analysis of direction of India's trade and tariff structure, the researcher concluded that PGCs are significant trade partner of India and India has ample opportunities of trade promotion in the region.

3.0 MOTIVATION TO RESEARCH

International trade acts as catalyst or an engine of growth of any economy. The proper management of export and import is an important issue for a country, as it affects balance of payment of any nation. India is the second fastest growing oil consuming nation in the world and GCC countries are the biggest suppliers of oil and gas and also the leading trading partner of India in the world. GCC has vast potential areas in which India can invest in future.

GCC has emerged as a major trading partner for India; it has vast potential as India's investment partner in future. The GCC's substantial oil and gas reserves are of vital importance for India's energy needs. India's economic linkages with the GCC have increased steadily especially due to growth in oil imports. These continue to make steady progress to-date. During 2010-11, India's exports to GCC were USD 42.36 billion. The bilateral two-way trade during the period was USD 117.27 billion. As per data for 2014-15, GCC is the largest trading partner of India with total trade of USD 133.73 billion. It registered 16.46 percent growth over 2010-11. In India, more than 50 per cent oil and gas come from the GCC countries. Table 3 shows India's trade with GCC countries during 2005-06, 2010-11 and 2014-15.

3.1 WHY GULF COOPERATION COUNCIL (GCC)

The GCC countries are collectively host to a large Indian expatriate community. These countries offer tremendous potential for cooperation in trade, investment, energy, manpower, etc. India signed a framework agreement on economic cooperation with member states of GCC on 25th August 2004. It provided ways and means for expanding and liberalizing the trade volume and fostering economic relation between both the parties in various fields. The agreement helped in enhancing and developing economic cooperation between them on the basis of equality and mutual interest. The agreement provided a favourable climate for

furthering trade exchange between them through encouraging business communication between the institutions and organisations concerned with foreign trade, giving attention to training and technology transfer.

In 2014-2015 India's major trading partners were China, USA, Saudi Arab and Switzerland. In the same year India's top five export destination were USA, UAE, Hong-Kong, China and Saudi Arab; and the top five import sources were China, Saudi Arab, UAE, Switzerland and USA (See table 1). If we look at the regional direction of India's foreign trade among four broadly classified regions, namely, America, Africa, Asia and Europe, Asia is a key destination of India's exports and imports. Asian region comprises East Asia (Oceania), ASEAN, West Asia - GCC, other West Asia, North - Eastern Asia and South Asia. The West Asia-GCC contributed a largest share in Asian region (See table 2).

GCC is a dynamically growing region with concomitantly high absorptive capacity for exports. This region deserves greater focus in India's trade policy. India's ability to diversify exports to the region has been a significant factor in keeping country's foreign trade growing even during the most severe phase of the global economic downturn. India's exports to GCC countries in recent years indicate impressive growth in demand of Indian products in this region. To maintain long term sustainable trade relationship India-GCC bilateral relations need to be strengthened further. A greater focus on trade promotion efforts in this region is highly desired.

3.2 JUSTIFICATION OF STUDY

India's total trade with GCC countries has increased at a rapid pace in recent years and stood at USD 133.7 billion during 2014-15 (about 17.6 percent of India's total trade with the world). India's total exports to the GCC countries in 2014-15 stood at USD 49.3 billion (15.9 percent of India's total exports to the world). At USD 84.4 billion, imports from these countries accounted for 18.9 percent of India's total imports from the world in 2014-15. The United Arab Emirates (UAE) is a major entry point for Indian products transiting to other markets in the region. UAE ranked first among the destinations for India's exports in the West Asia & North Africa (WANA) region and among the GCC countries and third overall after China and US in 2014-15. (See table 2)

The available empirical literature in the area of international trade relations, though stresses on various issues, still there is no comprehensive study on India's trade relations with GCC countries emphasising particularly on impact of India – GCC Framework Agreement on India's trade with GCC countries. Accordingly, the researcher feels the need to investigate various dimensions of India's trade with GCC countries.

4.0 RESEARCH OBJECTIVES

Present study aims at achieving following objectives.

1. To study India's policies and strategies regarding bilateral trade with GCC countries.
2. To scrutinize composition and concentration of India's trade with GCC countries.
3. To identify major determinants of India – GCC trade and analyze their impact on India's bilateral trade with GCC countries.
4. To examine impact of India – GCC Framework Agreement on India's trade with GCC countries.
5. To investigate potential areas to improve and consolidate India's trade with GCC countries.

5.0 RESEARCH METHODOLOGY

To accomplish above objectives the specific methodology sketched out is as follows.

1. The systems, polices and strategies formulated by government of India for trade with GCC countries will be analyzed by using secondary information available in the publications of Government of India and other regulatory authorities.
2. The composition and concentration of India's trade with GCC countries will be scrutinized using secondary information available in the publications of Government of India and other regulatory authorities.
3. The determinants of India – GCC trade will be identified by reviewing available literature on the topic and also by consulting researchers, academicians and the executives of regulatory authorities.

4. The impact of identified factors will be analyzed using Augmented Dickey Fuller (ADF)/ Phillip Perron (PP) Unit Root Test, Granger Causality, OLS/ Johansen Co-integration.
5. In order to analyze impact of India – GCC Framework Agreement on India's trade with GCC countries, the researcher will use Paired sample t test and carry out Computable General Equilibrium (CGE) Analysis in pre and post Framework Agreement trade data.
6. The researcher will identify potential areas to improve and consolidate India - GCC trade with the help of findings of study and also by consulting researchers, academicians and the executives of regulatory authorities.

5.1 SAMPLE, DATA SERIES AND SOURCES

SAMPLE: Sample consists of India and Six member countries of GCC (UAE, Saudi Arab, Qatar, Kuwait, Oman and Bahrain).

DATA SERIES: Annual data spanning from 1991 to 2017.

DATA SOURCES: The researcher will collect secondary information from Books, Journals, Reports, Working papers, Newspapers and Statistical data base of International Trade Statistic from IBRD, BIS, WTO, UNCTAD, IMF, DGCI&S, Ministry of Commerce, DGFT and other official websites of Government of India and GCC.

For primary information, the researcher will prepare a schedule to take opinion of (i) researchers and academicians, and (ii) the executives of Regulatory Authorities. The proposed number of respondents is 50, equally divided among two categories of respondents.

5.2 TOOLS TO BE USED

Besides basic descriptive (Mean, Dispersion and Coefficient of Variation), the researcher plans to use following statistical/ econometrics tools for analysing collecting data.

(A) Tools to examine composition and concentration of India's trade with GCC countries:

- Cuddi - Dulla Index of Variation (CDV): It measures the degree of variation in the time series variable under evaluation. The fundamental equation of CDV Coefficient is: $\text{CDV} = \text{CV} \times \sqrt{1 - \text{R}^2}$

- Average Annual Growth Rate (AAGR): It measures increase in the value of trade over specific time interval. The formula is:

$$\text{AAGR} = \frac{(\text{Growth Rate in Period A} + \text{Pd. B} + \text{Pd. C} + \ldots \text{Growth Rate in Pd. n})}{\text{Number of Periods}}$$

- Compound Annual Growth Rate (CAGR): It is a measure to calculate YoY growth rate over specific period of time. The equation to calculate CAGR is:
  CAGR = (Ending value/ Beginning value) ^ (1/n) – 1

- Revealed Comparative Advantage (RCA): It measures the relative export performance by country and industry/ commodity and is defined as a country's share of a commodity in world export divided by its share in world's total exports. The index for country i and commodity j is calculated by using the formula:

  RCAij = (Xij/Xwj)/(Xi/Xw). In this formula, Xij = ith country's export of commodity j, Xwj = world exports of commodity j, Xi = total exports of country i and Xw = total world exports.

- Intra Industry Trade (IIT): It measures the net trade share of a commodity within similar industries or product compared to industry. For assessing the extent of IIT for a particular product Grubel and Lloyd Index is most commonly used. The formula for calculating GL index is:

  $\text{GLi} = 1 - \frac{|\text{Xi} - \text{Mi}|}{\text{Xi} + \text{Mi}}$. Here: GL_i = GL Index for good i, $0 \leq \text{GLi} \leq 1$, Xi = export of good i and Mi = import of good i.

- Trade Intensity Index (TII): It is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in the world trade. It is calculated as:

  TII=(Xij/Xit)/(Xwj/Xwt)

Here:Xij= Values of country i's exports to country j, Xwj= value of world exports to country j, Xit = country i's total exports and Xwt = total world exports

- Hirschman and Herfindahl Index (HHI): This index is used to measure the trade concentration. It is calculated as: $H_i = \sqrt{\sum \left(\frac{Xi}{Xt}\right)^2 \times 100}$

  Here, H_j= Hirschman Index for country j, x_i = Country j's export of product i in total exports and X_t = Country j's total exports

(B) Tools to analyze the impact of identified factors on India's bilateral trade with GCC countries:

- Unit Root (ADF/PP) Test: It is must to check stationarity of time series data before further investigation, particularly regression analysis. If we regress a time series variable on another time series variables using OLS without testing stationarity, estimation can obtain a very high r^2 (though meaningful relationship between the variables may not exist). This situation reflects the problem of spurious regression between totally unrelated variables generated by a non-stationary process. A variable is said to be integrated of order one, or I(1), if it is stationary after differencing once, or of order two, I(2) if differenced twice. If the variable is stationary without differencing, then it is integrated of order zero, I(0). A series is said to be stationary if the statistical properties such as mean, variance, auto correlation etc. are all constant overtime.

  Most popular tests of non-stationarity (unit root tests) available in econometrics literature are Dickey-Fuller (DF), Augmented Dickey-Fuller (ADF) and Phillips and Perron (PP) test. In most of these tests the null hypothesis is that there is a unit root, and it is rejected only when there is strong evidence against it.

- Johansen Co-integration Test: It tests cointegration by examining the number of independent linear combinations (k) for the time series variables set that yields a stationary process. In the present study, it will be used to determine the existence of a long-run equilibrium relationship between India and GCC countries trade relations, within a multivariate framework. The approach of cointegration test in a multivariate system is similar to the ADF test, but it also requires the use of Vector Autoregressive (VAR) approach (a system regression model which includes more than one dependent variable).

Cointegration indicates existence of a long-run relationship between variables. Even when the variables are not cointegrated in the long-run, they might still be related in the short-run. A major implication of Granger causality is that if two or more time series are co-integrated, then there must be either bi-directional or uni- directional Granger causality between them. In order to understand short-run interdependence among India and GCC countries trade relations, Granger causality tests will be performed.

- Granger Causality Test: It seeks to determine whether past values of a variable help to predict changes in another variable. Variable X_1 is Granger caused by variable X_2 if variable X_2 assists in predicting the value of variable X_1. If this is the case, it means that the lagged values of variable X_2 are statistically significant in explaining variable X_1.

(C) Tools to analyze impact of India - GCC framework agreement on India's trade with GCC countries:

- Paired sample t test: It is used to compare two correlated sample means. In our study, it will be used to examine significance of difference in trade volume before and after an intervention of framework agreement on India's trade with GCC countries. Paired t statistic is calculated as: $T = \frac{\bar{d}}{SE(\bar{d})}$. Here: $\bar{d}$ = Mean difference, $SE(\bar{d})$ = Standard error of the mean difference $\left(\sigma/\sqrt{n}\right)$ and σ = Standard deviation of the difference.

- Computable General Equilibrium (CGE): This model is used to evaluate the effects of trade agreement. It captures demand and supply in each sector and the linkage among sectors. This model not only reveals direct effects of tariff reductions in individual markets, but also indirect changes in related markets. The crux of general equilibrium analysis is that no market remains with excess demand or supply, i.e., circular flows of income and expenditure must all be balanced.

- Gravity Model: It predicts bilateral trade flows between any two countries as a function of their size (measured as Gross Domestic Product, population or per capita income) and the distance (measured as the distance between the

countries capital, or measure bilateral distances relative to the country's average distance from all trading partners) between them. In the present study, Gravity Model will be used to estimate the magnitude of India's export potential to the six member GCC countries. The mathematical form of the model is:

$$\text{Trade}_{ij} = \alpha \frac{\text{GDPi} \,.\, \text{GDPj}}{\text{Distance}_{ij}} \quad \text{..... (1)}$$

Here: Trade_{ij} = Value of the bilateral trade between country i and country j, GDP_i and GDP_j = National income of country i and country j, Distance_{ij}= Bilateral distance between the two countries and α = constant of proportionality

Taking logarithms of gravity model (equation 1), we get the log-linear form of the model. The equation for this is:

$$\text{Log } (TT_{ij}) = \alpha + \beta_1 \text{ Log } (GDP_i) + \beta_2 \text{ Log } (GDP_j) + \beta_3 \text{ Log}(\text{Distij}) + \text{uij} \quad \text{..... (2)}$$

Here: α, β_1, β_2 and β_3= Coefficient to be estimated and $u$ij = Error term (shocks and event that may affect bilateral trade)

6.0 PROPOSED CHAPTER PLAN

Chapter 1: Introduction

Chapter 2: Survey of Literature

Chapter 3: Economic Policies Governing India – GCC Bilateral Trade Relations

Chapter 4: India – GCC Bilateral Trade Relations: An Overview

Chapter 5: Analysis of Data

Chapter 6: Findings and Conclusion

APPENDICES

TABLE 1: INDIA MAJOR TRADING PARTNERS (2014-15)

US$ Millions

Rank	Country	Export	Import	Total Trade	Trade Balance
1	China	11,934.25	60,413.17	72,347.42	-48,478.91
2	USA	42,448.66	21,814.60	64,263.26	20,634.05
3	*United Arab* Emirates	33,028.08	26,139.91	59,167.99	6,888.17
4	Saudi Arab	11,161.43	28,107.56	39,268.98	-16,946.13
5	Switzerland	1,068.58	22,133.16	23,201.74	-21,064.58
6	Germany	7,537.34	12,787.86	20,325.20	-5,250.52
7	Hong Kong	13,599.88	5,571.99	19,171.87	8,027.89
8	Indonesia	4,043.32	15,004.64	19,047.96	-10,961.32
9	Korea	4,602.95	13,529.11	18,132.06	-8,926.16
10	Malaysia	5,816.55	11,117.74	16,934.29	-5,301.19

Source: www. commerce.nic.in (Compiled)

TABLE 2: INDIA'S FOREIGN TRADE (REGION-WISE)

US$ Millions

Region	Export by Region (2014-15)	% Share	Import by Region (2014-15)	% Share
1) Europe	**56,304.02**	**18.14**	**73,919.80**	**16.5**
1.1 EU Countries	49,357.59	15.9	49,207.74	10.98
1.2 European Free Trade Asso. (EFTA)	1,352.63	0.44	23,140.13	5.16
1.3 Other European Countries	5,593.80	1.8	1,571.93	0.35
2) Africa	**32,841.95**	**10.58**	**38,634.87**	**8.62**
2.1 South African Customs Union (SACU)	5,532.43	1.78	7,567.23	1.69
2.2 Other South African Countries	3,214.03	1.04	5,259.43	1.17
2.3 West Africa	6,980.27	2.25	20,034.56	4.47
2.4 Central Africa	1,251.26	0.4	265.82	0.06
2.5 East Africa	10,152.26	3.27	1,441.99	0.32
2.6 North Africa	5,711.70	1.84	4,065.83	0.91
3) America	**59,050.35**	**19.03**	**55,908.93**	**12.48**
3.1 North America	47,521.91	15.31	28,957.17	6.46
3.2 Latin America	11,528.43	3.71	26,951.76	6.02
4) Asia	**1,53,811.50**	**49.56**	**2,63,912.75**	**58.9**
4.1 East Asia (Oceania)	3,220.95	1.04	11,024.34	2.46
4.2 ASEAN	31,812.86	10.25	44,714.77	9.98
4.3 West Asia – GCC	49,296.92	15.88	84,432.63	18.85
4.4 Other West Asia	11,185.08	3.6	26,997.35	6.03
4.5 NE Asia	37,815.54	12.19	93,812.80	20.94
4.6 South Asia	20,480.14	6.6	2,930.85	0.65
5) CIS & Baltics	**3,396.13**	**1.09**	**7,665.23**	**1.71**
5.1 CARs Countries	604.58	0.19	775.73	0.17
5.2 Other CIS Countries	2,791.55	0.9	6,889.50	1.54
6) Unspecified Region	**4,934.52**	**1.59**	**7,991.81**	**1.78**
Total	**3,10,338.47**	**100**	**4,48,033.40**	**100**

Source: DGCIS, Kolkata (Compiled)

TABLE 3: INDIA'S TRADE WITH GCC

US$ Million

Country	2005-06			2010-11			2014-15		
	Export	**Import**	**Total Trade**	**Export**	**Import**	**Total Trade**	**Export**	**Import**	**Total Trade**
United Arab Emirates	8,591.79	4,354.08	12945.87	33,822.39	32,753.16	66575.55	33,028.08	26,139.91	59167.99
Saudi Arab	1,809.77	1,632.34	3442.11	4,684.40	20,385.28	25069.68	11,161.43	28,107.56	39268.99
Qatar	259.34	901.62	1160.96	259.34	6,819.87	7079.21	1,054.98	14,604.71	15659.69
Kuwait	513.73	461.85	975.58	1,856.01	10,313.64	12169.65	1,198.89	13,381.97	14580.86
Oman	408.43	265.59	674.02	1,082.24	4,002.007	5084.247	2,379.44	1,752.24	4131.68
Bahrain	192.25	189.56	381.81	651.83	641.25	1293.08	472.98	446.25	919.23
Total	**11,775.31**	**7,805.04**	**19580.35**	**42,356.21**	**74,915.21**	**117271.40**	**49,295.80**	**84,432.64**	**133728.40**

Source: www. commerce.nic.in (Compiled)

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